

**FACSIMILE TRANSMITTAL**

ALASKA DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
Division of Spill Prevention and Response
Contaminated Sites Program
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DATE: 5/30/02

TO: Jonathan Williams

FAX NO.: 206-553-1280

FROM: Douglas Bauer

FILE NO.: ADEC # 102.26.055 N.C. Machinery Insitu Chemical
Oxidation workplan

NO. OF PAGES: 4
(INCL. COVER SHEET)

COMMENTS: Jonathan:
The following is the response to my letter.

5/30/02 - Spm

Discussed w/ Doug

- EPA OK w/ pilot project

- Info to ADEC + EPA

- Doug to check on Ar species

USEPA REG



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May 23, 2002

RECEIVED

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**CONTAMINATED
SITES
FAIRBANKS**

Mr. Doug Bauer
Alaska Department of Environmental Conservation
Division of Spill Prevention and Response
Contaminated Sites Program
610 University Ave
Fairbanks, Alaska 99709-3643

Responses to ADEC Comments
In situ Chemical Oxidation
NC Machinery Fairbanks Facility
File #102.26.055, Facility #613
URS Job No. 53-26450002.00

Dear Mr. Bauer:

This letter is provided to address the requests outlined in the Alaska Department of Environmental Conservation's (ADEC) letter dated May 10, 2002 regarding the proposed Corrective Action at the above referenced facility. URS understands that ADEC will consider approval of the In situ Chemical Oxidation pilot study pursuant to addressing your comments and questions (see Attachment 1). To facilitate your review, URS has provided our responses in the same order as outlined in the May 10th letter. In preparing our Corrective Action plan dated August 29, 2001, URS did review and utilize the Interstate Technology and Regulatory Cooperation Work Group (ITRC) Technical and Regulatory Guidance for In Situ Chemical Oxidation of Contaminated Soils and Groundwater dated June 2001.

URS's Responses**Item 1) Potential for Gas Evolution**

To address this concern, the subsurface temperatures will be monitored during hydrogen peroxide injections at each injection well and the rate of injection will be adjusted to keep the subsurface temperature in the treatment area at a safe level. As such, the evolution of appreciable quantities of steam or oxygen is not likely. The soil and groundwater contamination in the source areas consists of residual levels of diesel and oil range petroleum hydrocarbons within the smear-zone (soil) and in the dissolved phase (groundwater). Free-phase product has never been detected. Therefore, based on the concentrations of petroleum hydrocarbon and volatile organic compounds (VOCs) at the site, the potential to generate dangerous levels of combustible or toxic vapors is very low. During the treatment period, the oxygen, lower explosive limits (LEL) and organic vapor levels will be monitored in monitoring well MW-6, located adjacent to the pilot study injection wells, and in the Main Shop area adjacent to the treatment zone.

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ADEC - NC Fairbanks
May 23, 2002
Page 2

2) Potential for Resolubilization and transport of Metals

During prior groundwater monitoring conducted at the site, groundwater samples collected from monitoring wells MW-1 and MW-4 in July and October 1996 were analyzed for dissolved RCRA metals. The analytical results are summarized in Table 1 and the laboratory reports are provided as an Attachment 2. No elevated levels of metals were detected in the groundwater and only arsenic and barium were detected above the method detection limits. Based on these results, it is our professional opinion that there is a low potential for resolubilization of metals affecting the groundwater quality. However, to address ADEC's concerns regarding this issue, groundwater samples will be collected from monitoring well MW-6 prior to and after completion of the pilot study. The samples will be analyzed for dissolved RCRA Metals.

3) Coordination of Site Health & Safety Plan With NC Machinery Operation

As outlined in our Corrective Action Plan dated August 29, 2001, a site specific Health & Safety Plan will be developed by Terra Vac in accordance with Federal, State and local requirements to address the health and safety related issues associated with implementation of the in situ chemical oxidation corrective action. NC Machinery personnel will be fully informed of all health and safety related matters during the performance of the pilot study.

4) Determination of Contaminant Mass Loss

Contaminant mass loss from soil and groundwater will be assessed by sampling before and after the pilot study. During the installation of the proposed pilot study injection wells, soil samples within the residual contamination zone will be collected for analysis from two injection well locations. At the completion of the pilot study and during the installation of the full scale remedial system, a boring will be drilled within the pilot study treatment area and soil samples collected for analysis. Groundwater samples will be collected from monitoring well MW-6 prior to the pilot study and following the pilot study treatment period to assess the affects of the contaminant loss on the groundwater.

URS will provide the results of the pilot study including the supplemental information outlined above to ADEC for review prior to implementation of the final design of the corrective action. As requested, we will also complete the appropriate EPA Underground Injection Control (UIC) injection well registration. We trust this letter meets your needs and look forward to working with ADEC on this project. Please do not hesitate to contact us if you have any questions at (206) 438-2284.

Sincerely,

URS CORPORATION

David Raubvogel
Senior Geologist

Attachments: 1 and 2
Table 1

cc: John Houlihan, Paul Dworlan, Victoria Childs

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Table 1
Summary of Groundwater Metals Analytical Results, mg/L
NC Machinery
Fairbanks, Alaska

Sample ID	Sample Date	Dissolved Metals (mg/L)							
		Arsenic	Barium	Cadmium	Chromium *	Lead	Mercury	Selenium	Silver
MW-1	7/15/96	0.0052	0.24	ND	ND	ND	ND	ND	ND
	10/17/96	0.018	0.27	ND	ND	ND	ND	ND	ND
MW-4	7/15/96	ND	0.19	ND	ND	ND	ND	ND	ND
	10/17/96	ND	0.21	ND	ND	ND	ND	ND	ND
18 AAC 75 Table C Groundwater Cleanup Levels		0.05	2	0.005	0.1*	0.015	0.002	0.05	0.18

* Total chromium. 18 AAC 75 Table C groundwater cleanup levels for chromium +3 and chromium +6 are 36.5 and 0.1 mg/L, respectively.